

WHAT IS CLAIMED IS:

1. A rocket motor insulation composition comprising:
 - (a) 50-95 parts by weight of a solid EPDM rubber, wherein said EPDM rubber represents ethylene propylene diene monomer rubber;
 - 5 (b) 5-50 parts by weight of a liquid EPDM rubber whereby the weight parts of said liquid EPDM rubber and said solid EPDM rubber amount to 100 weight parts;
 - (c) 5-50 phr of polyaramide fiber, wherein phr represents parts by weight per 100 parts by weight of said solid EPDM rubber and said
10 liquid EPDM rubber; and
 - (d) 5-50 phr of ammonium sulfate powder, wherein particles of said ammonium sulfate powder are encapsulated by a macromolecular rubber material to inhibit hydrophilic property of the particles.
- 15 2. The insulation composition as defined in claim 1 further comprising 5-100 phr of an inorganic filler, wherein said inorganic filler is silicon dioxide, aluminum hydroxide, or magnesium hydroxide.
3. The insulation composition as defined in claim 2 further
20 comprising 4-8 phr of polyterpene resin as a tackifier.
4. The insulation composition as defined in claim 1 further comprising 0.1-5 phr of sulfur and 0.01-3 phr of a vulcanization accelerator, wherein said vulcanization accelerator is
25 4,4'-dithiodimorpholine, or N-tert-butyl-2-benzothiazole sulfenamide.

5. The insulation composition as defined in claim 1 comprising 55-80 parts by weight of said solid EPDM rubber and 20-45 parts by weight of said liquid EPDM rubber.

5 6. The insulation composition as defined in claim 1 comprising 10-30 phr of said polyaramide fiber.

7. The insulation composition as defined in claim 1 comprising 1-30 phr of said ammonium sulfate powder.

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8. The insulation composition as defined in claim 1, wherein said macromolecular rubber material is polyurethane.

9. The insulation composition as defined in claim 1, wherein the
15 particles of said ammonium sulfate powder have a diameter ranging from 50 micron to 80 micron.